ABSTRACT

A thermal image identification system includes an infrared emitting element having a laminate, and a power source electrically communicable with the infrared emitting element. The laminate includes an infrared emitting layer having a first side and a second side, a cover layer associated with the first side, and a backing layer associated with the second side. The laminate may also include a first heat insulating layer between the infrared emitting layer and the cover layer, a second heat insulating layer between the infrared emitting layer and the backing layer, and an infrared reflective layer between the second heat insulating layer and the backing layer. A plurality of infrared emitting elements may be arranged contiguously for coordinated operation. The infrared emitting elements may be arranged in a one-dimensional or a two-dimensional array. A controller may be used to regulate at least one of an operating mode of the infrared elements, an illumination intensity of the infrared emitting elements, a temperature of the infrared emitting elements, and a voltage of the power source.